



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,614	10/10/2001	Yasuhiro Yamauchi	5576-96CT	9982
20792	7590	08/05/2004	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			KERNS, KEVIN P	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/975,614	Applicant(s) YAMAUCHI ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-12 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 10-12, it is unclear which end is meant to correspond to "an end" and "the suction port", as both ends are connected to other structures and also in a suction environment.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Molerus et al. (US 4,931,260).

Molerus et al. disclose a fluidized bed reactor that includes the following structures: a reaction vessel (reactor 20); a cyclone separator 14; a recycling conduit 11; an injector 7 connected to reaction vessel 20; a feed pipe 26 connected to the flow

path between a connected end (to reaction vessel 20) of injector 7 and a suction port 12 (above recycling connecting portion 16); and a nozzle connected to the bottom of the reaction vessel 20 (abstract; column 4, lines 3-68; column 5, lines 1-59; column 6, lines 27-65; column 7, lines 14-68; column 8, lines 1-68; column 9, lines 1-68; column 10, lines 1-22; and Figures 1-3). With regard to the use of the reactor for decomposing PCB (claims 10-12), the use of the nozzle to supply air and/or oxygen (claims 10-12), the use of a feed pipe for feeding PCB and a solvent to the reaction vessel (claims 10-12), the use of an injector for injecting water and sodium hydroxide into the reaction vessel (claims 10-12), the supply of sodium hydroxide to form sodium carbonate at an amount that does not cause excess sodium carbonate to precipitate (claims 10-12), and the range of pH values within the reaction vessel (claims 10-12), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Terminal Disclaimer

5. The terminal disclaimer filed on July 1, 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 6,322,761 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

6. The examiner acknowledges the applicants' amendment, corrected drawings, and terminal disclaimer, all of which were received by the USPTO on July 1, 2004. Regarding the prior double patenting rejection, the applicants' terminal disclaimer has been reviewed and accepted. The applicants' amendment overcomes prior objections to the drawings, abstract, specification, and claims. Although the applicants have clarified the 35 USC 112, 2nd paragraph with regard to the antecedent basis issues, the limitations continue to remain unclear (see paragraph 2 above). The applicants have cancelled claims 13-16, such that all prior 35 USC 102 rejections to those claims have been overcome (see paragraphs 11-14 of the prior Office Action). Claims 10-12 remain under consideration in the application.

7. Applicants' arguments filed July 1, 2004 have been fully considered but they are not persuasive.

With regard to the applicants' arguments/remarks on pages 8 and 9 of the amendment, the examiner respectfully disagrees with the applicants' assertion that 1) the 35 USC 112, 2nd paragraph rejections are overcome/clarified, as only antecedent basis was addressed by the applicants (see paragraph 2 above); and 2) Molerus et al. do not disclose the teachings of remaining claims 10-12. Regarding the second assertion, the applicants have further defined claims 10-12 with "intended use" limitations that do not lend further structural detail(s) to these apparatus claims. As a result, neither the sodium hydroxide in the reactor, nor the resulting pH value of the

solution in the reactor, has further limited the structure of the PCB decomposition reactor. Furthermore, the "suction port" (which is the only contended structural feature argued by the applicants not to be present in Molerus et al.) is indeed present in Molerus et al., as there is a pressure differential present in the region around feature 12 of Figures 1-3 (see, in particular, column 8, lines 25-47; column 9, lines 32-42; and Figures 1-3).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

Art Unit: 1725

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KPK

kpk

August 3, 2004

Kiley Stoner AU 1725
Kiley Stoner 8/3/04

Kevin P. Kerns
Examiner
Art Unit 1725